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REMITTANCES AND ECONOMIC GROWTH IN TRANSITION COUNTRIES

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Abstract

Migrants' remittances have become an important development tool because they can raise income and reduce poverty rates in developing countries. These remittances might also promote development by providing funds that recipients can spend on education or health care or invest in entrepreneurial activities. Thus, workers' remittances are a steadily growing external source of capital for developing countries. In spite of the fact that importance of remittances in total international capital flows are increasing, the relationship between remittances and growth has not been adequately studied. The main aim of this paper is to investigate the impact of remittances on economic growth for the transition countries. For the aim of the study, we test the hypothesis suggested by the Giuliano and Ruiz-Arranz (2005), which states that remittances can substitute for a lack of financial development and hence promote economic growth. We use panel data for the transition countries between the time period 2001-2012. The results of the study suggest that there is a negative significant effect of remittances on economic growth in the transition economies.

Keywords: economic growth, transition countries, remittances, panel data

JEL Codes: C51, F22, F24, O16.

Introduction

International migration has gained importance for the transition process in the former centrally planned economies of the Eastern European Countries and the former Soviet Union Countries and has received a high attention through international forums in recent years.

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Remittance flows to the developing countries of Europe and Central Asian region have increased by a substantial amount in recent years[4]. Also, these flows have been the important aspect of the reintegration of these economies into the international economic system. In the view of the aging population in Europe and some countries of the former Soviet Union and differences in economic growth performance, it is likely that migration will continue to play an important role in at least at the medium-term perspective. Migration flows to these economies have different pattern. Most of the labour migration from Eastern and South-Eastern Europe has been directed to the Western European and North American countries, while the destination for the main part of the migration of members of Commonwealth of Independent States (CIS) is to Russia and Kazakhstan. In the European and the Central Asian regions, Russia is the largest source of remittances, which is accounted 31 per cent of total remittances in the region (see World Bank, 2013).

Labour migration has different implications for economic growth for the destination country and country of origin. For the country of origin, it reduces the social tension and gives the possibility to reduce poverty by increasing the consumption of households. Thus, remittances sent by migrants to their left-behind families give some reliefs on liquidity constraints faced in the home country. On the other hand, some factors, such as brain-drain, may have negative impact on the long term economic growth performance of the sending economy. Therefore, it is critically important for migrant sending economies to effectively use the received remittances for investment purposes.

Several studies have investigated the economic consequences of remittances on economic growth in recipient countries, but the results are largely inconclusive (see for example, Chami et.al., 2005; Adam and Page, 2005; Le 2009; Annen et al., 2016; Batu, 2017; Meyer and Shera, 2017; Clemens and McKenzie 2018; Kumar et.al, 2018; Mondal and Rasheda, 2018). Although it is undeniable that remittances have poverty-alleviating and consumption-smoothing effects, important empirical question is whether remittances serve to promote economic growth for recipient countries or not. Some researchers argue that remittances may have negative impact on growth by reducing labour supply or labour force participation rate (see Chami et.al 2005; Barajas et al 2009; Lartey et al. 2008). For example, Chami et al.(2005) and Le (2009) show that remittances do have a deleterious effect on recipient economies. Also

[4] See Figure1 in Section 2

Barajas et al. (2009) found that workers' remittances have no impact on economic growth. Moreover, remittances could adversely influence long-run economic growth through the Dutch disease effect (see, for example, Lartey et al. 2008). Clemens and McKenzie (2018) argue that increasing remittances associated with growing migration tendency may have negative effect on economic growth of the country of origin. Senbeta (2013) found that remittances have considerable positive impact on capital accumulation, while this effect on total factor productivity (TFP) appeared to be as insignificant. It is concluded that remittances may increase investment, but low efficiency may create ground for total negative effect of remittances over economic growth.

On the other hand, some other authors argue that remittances can increase economic growth through an increase in investment (Giuliano and Ruiz-Arranz, 2009; Nyamongo et al., 2012, Batu, 2017). Several studies indicate conditionality of the impact of remittances on other fundamentals of economic growth. For example, Bjuggren, Dzansi and Shukur (2010) indicated that positive effect of remittances may decrease with development of institutions and credit market in a country. However, Catrinescu et al. (2009) indicated that under good institutions remittances could bring about higher economic growth. Feeny et al. (2014) examined the impact of remittances on economic growth in small island developing countries (Pacific and sub-Saharan African group of samples) and showed that remittances have positive impact on economic growth and low economic volatility and increasing labour supply. Also, Batu (2017) found out that temporary inflows of worker remittances positively affect GDP per capita while a permanent increase of remittances does not affect output growth.

To our best knowledge, there has been a limited amount of research on the macroeconomic impact of remittances on economic performance of transition economies. For example, Iradian (2007) carried out a research to investigate the factors that explain fast economic growth in CIS countries including remittances as possible explanatory variable as well. He found out that the estimated coefficients for changes in terms-of-trade and remittances to GDP ratio are positive and significant. These two factors are estimated to have accounted for about 1.5 percentage points of the region's annual average growth all together. Atamanov et al. (2009) aimed to identify the impact of migration and remittances on income and income distribution in Ukraine, Georgia, Moldova and Kyrgyzstan. This study concluded that remittances considerably affect household consumption and income distribution in these economies. Castaldo and Reilly (2007) study on Albania show that remittances do

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not considerably change the consumption pattern of households. Descriptive analysis of migration and remittances by Kaczmarczyk and Okolski (2008) on Poland and Baltic states showed the limited impact of remittances on macroeconomic indicators. Blouchoutzi and Nikas (2010) studied the macroeconomic impact of remittances in Romania, Bulgaria and Albania. They found that along with other factors, remittances positively contribute to private consumption, import and investment expenditures. Also, Kumar et al. (2018) examined the impact of remittances versus financial development on the economic growth of Kyrgyzstan and Macedonia. The results of the study show that the impact of financial development is negative and significant only for Kyrgyzstan, and not statistically significant for Macedonia.

Thus, we might say that impact of remittances on economic growth is inconclusive. Full understanding of the impact of remittances on macroeconomic performance needs more detailed analysis through inclusion of other conditional factors. One can say that migrant remittances are particularly important in the transition economies and larger investigations are needed to examine the real impact of these remittances on economic growth. Therefore, the the main aim of this study is to investigate the impact of remittances on economic growth in the transition countries by using the panel data for the time period 2001-2012[5].

The rest of the paper is organised as follows: Section 2 presents the importance of remittances in the transition economies; Section 3 presents the data and section 4 is about methodology employed in the study; Section 5 illustrates the results of the empirical study and Section 6 gives the conclusion and policy recommendations.

The Importance of Remittances in the Transition Economies

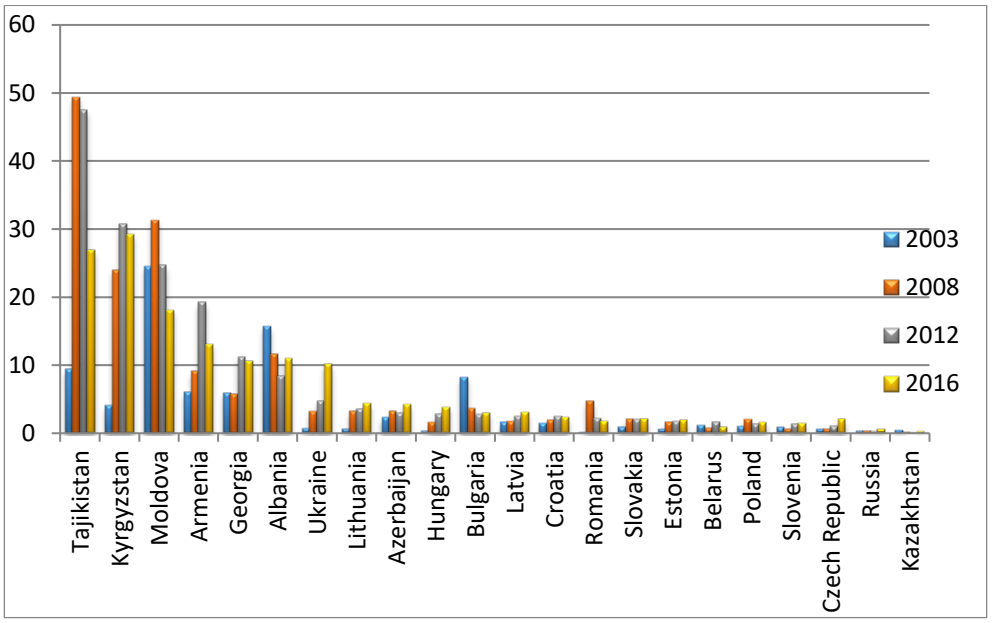
According to the World Bank data, the value of remittances in terms of US dollar vary between transition countries. For instance, in 2015 Russia and Poland received more than $ 6 billion as personal remittances, while in some countries such as Moldova and Armenia it accounted for about only $1.5 billion. However, the size of these economies is different and absolute value of remittances may give biased picture of its importance for these countries. Data regarding the receipt of remittances of the transition countries as a per cent of GDP are given in Figure 1. As the figure shows, remittances have increased considerably in most of the economies for the last ten years. Although, one can note that

[5] We used the latest data available when the study was carried out.

there is a decreasing tendency of remittances in 2016 compared to 2008 and 2012. Main reason for this trend is the weak economic growth in remittance-source countries, which is mostly associated with low oil prices, especially in Russia (Ratha et al., 2016). In the transition countries, remittances fell by 22.5 in 2015, while in 2014 it decreased by 6.2 per cent.

Among these countries, in 2016 share of remittances in GDP is much larger for Tajikistan (26 percent), Kyrgyzstan (29 percent), Moldova (18 percent), Armenia (13.11 per cent), Albania (11 per cent), Georgia (10 per cent) and Ukraine (10 per cent). Tajikistan and Kyrgyzstan are also among the top ten remittance recipient countries in the world. In the other countries, excluding Kazakhstan, Russia and Slovenia, remittances receipt varies from 1 to 4 per cent of GDP.

Figure 1: The Share of Remittances in GDP in the Transition Economies



Source: World Bank, World Development Indicators.

Tajikistan is the most dependent country on remittances among the countries in the world. It is estimated that more than 10 per cent of the population are abroad for employment purposes, mostly in Russia (see UNICEF, 2011, p.3). Kyrgyzstan's economic dependence on remittances is also substantial. Economic growth driven by revenues from oil exports and a declining domestic labour force has attracted

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millions of labour migrants. Russia's Federal Migration Service estimates that out of 11.3 million foreigners entering Russia in 2013, and three million of them work illegally (World Bank, 2013).

Although importance of remittances in terms of the size varies over transition economies, remittances represent the large inflow of transfers that may be used for current consumption or for investment purposes for most of the low income transition countries. Being used for current consumption, they may contribute to poverty reduction and mitigates social tension.

Data

In this study, the data for 22 transition countries for the period 2001-2012 are employed. The countries are listed in Table 1.

Table 1: List of Countries

ALB-Albania	RUS –Russia
BGR- Bulgaria	ARM- Armenia
HRV-Croatia	AZE- Azerbaijan
CZE-Czech republic	BLR - Belarus
HUN-Hungary	GEO - Georgia
EST- Estonia	MDA - Macedonia
LVA – Latvia	UKR - Ukraine
LTU-Lithuania	KAZ - Kazakhstan
POL-Poland	KGZ - Kyrgyzstan
ROM- Romania	TJK - Tajikistan
SVK- Slovak Republic	
SVN- Slovenia	

We used balanced panel data in this study. Data sources are mainly from the World Development Indicators database of the World Bank, IMF World Economic Outlook, European Bank for Reconstruction and Development (EBRD)[6], and statistics of the CIS and national Central Bank data of relevant countries[7]. In this study, the GDP per capita

[6] Economic data by EBRD available on: http://www.ebrd.com/pages/research/economics/data.shtml
[7] Available on: www.cisstat.com

growth rate is the dependent variable, while the share of remittances to GDP is used as the main independent variable in the study. Also, financial development is measured with domestic credit to private sector as the percentage of the GDP. Table 2 shows the variables we used in the study and the sources of these variables.

Table 2: Variables and Data Sources

	Description	**Source**
y_{it}	GDP per capita (constant 2005 US$)	World Bank WDI .
REM/GDP	Worker's remittances, personal transfers and compensation of employees received (% of GDP)	World Bank WDI
DC/GDP	Domestic credit to private sector provided by financial corporations (% of GDP)	World Bank WDI
INV/GDP	Total Investment(% of GDP)	IMF WEO
GOVBALN/GDP	General government balance (% of GDP)	European Bank for Reconstruction and Development, IMF WEO
GOVERNANCE	Average of six Worldwide Governance Indicators (WGI).	Worldwide Governance Indicators (WGI); for 2001 average value of 1998 and 2000 is used
TRADE	Net barter terms of trade index (2000 = 100)	World Bank WDI

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POPULATION	Population growth (annual %)	World Bank WDI
REFORM	Average of six indicators of the European Bank for Reconstruction and Development. (EBRD Reform Index)	EBRD

We use the set of explanatory variables consists of other variables as control variables. These variables are investment in per cent of GDP, economic stability measures such as general government balance, foreign trade conditions measured through the terms of trade and population growth rate. In addition to these variables, following the literature on economic growth performance of the transition economies, average of the six Governance Indicators and EBRD reform index are used as well. Former indicator measures institutional development, while the latter indicates the progress of the country in economic reforms.

Table 3 reports descriptive statistics of GDP per capita growth, remittances to GDP and other control variables for the countries covered in the study.

Table 3: Descriptive Statistics

	Mean	SD	Min	Max
	0.047	0.054	-0.158	0.285
lny_{it-1}	8.307	1.075	5.621	9.952
REM/GDP	6.204	9.540	0.071	49.290
DC/GDP	40.099	23.466	4.178	107.377
INV/GDP	26.604	6.746	12.612	57.991
GOVBALN/GDP	-1.999	4.155	-12.001	25.462
GOVERNANCE	0.045	0.682	-1.170	1.067
TRADE	111.147	28.720	90.129	250.013
POPULATION	0.071	0.723	-2.258	2.641
REFORM	3.453	0.470	1.833	4.055

As the table shows, there are large variations in per capita GDP growth rates over the period under consideration. The minimum value is about -15% and the maximum value is 28% and the mean value about 4.7%. Domestic credit to GDP ratios (minimum value 4.17%, maximum value107.38%) and other macro variables are also highly variable.

Methodology

In order to investigate the effect of remittances on growth for transition countries, following Giuliano and Ruiz-Arranz (2005), and Singh et al (2010) we used panel version convergence model where growth of GDP per capita is the dependent variable.

Hence, we estimate the following equation:

$$\Delta \ln y_{it} = \beta_0 + \beta_1 \ln y_{it-1} + \beta_2 REM_{it} + \beta_3 FINDEV_{it} + \beta_2 X_{it} + \alpha_i + \lambda_t + u_{it} \qquad (1)$$

In this model $\ln y_{it-1}$ denotes lagged per capita GDP, *REM* is remittances over GDP, FINDEV is financial development and X_{it} includes other control variables, α_i is country specific fixed effects, λ_t ,is time period effect and is the error term.

Here lagged per capita GDP is the convergence term. By following Giuliano and Ruiz-Arranz (2005) and Singh et al. (2010) we used domestic credit to GDP as an indicator of financial development. Other control variables are investment to GDP, governance, government balance merchandise trade and population growth and reform. In determining the choice variables, we considered the previous theoretical and applied studies in the literature and availability of the data.

Equation 1 could be estimated with different techniques. The simplest model is fixed effects (FE) where we use ordinary least squares (OLS) for estimation. However, remittances might also effect the growth rate. Due to this endogeneity problem, the OLS estimates could be biased and inconsistent. Therefore, we also used fixed effect instrumental variable (FE IV) method. With this method we also deal with possible endogeneity of lagged GDP per capita and indicator of financial development. There are other estimation methods based on generalized method of moments (GMM) like GMM in differences and GMM system estimators. However number of countries is small relative to number of instruments to use these estimation methods. Roodman (2006) shows that this produces biased results. In order to address the validity of instruments we also employ Sargan's test for overidentifying restrictions.

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Estimation Results

Table 4 shows FE and FE IV estimation results related to the effects of remittance on growth for the transition countries. The results related to the model including all control variables are presented in the Table in column 1 and 2. The results regarding to the model where we exclude some of the control variables that are found to be insignificant in the general model are shown in column 3 and 4 in the Table. We used country specific and time period fixed effects in all models. Pooled regression is a restricted form of fixed effects model[8]. In order to test the validity of this restriction *F* test has been performed. The *F* statistic was found as 7.39 and significant at 1% level. Hence, we found empirical support related to the validity of fixed effects model[9].

Table 4: Estimation Results Regarding Remittance and Growth

Dependent Variable:

	FE (1)	FE IV(2)	FE(3)	FE IV(4)
lny_{it-1}	-0.136***	-0.235***	-0.133***	-0.231***
	(-5.21)	(-4.52)	(-5.55)	(-4.91)
REM/GDP	-0.001*	-0.006*	-0.001*	-0.005*
	(-1.69)	(-1.84)	(-1.91)	(-1.81)
DC/GDP	-0.001***	-0.006***	-0.001***	-0.006***
	(-4.23)	(-2.82)	(-4.26)	(-2.73)
INV/GDP	0.0009*	0.001*	0.001**	0.002**
	(1.79)	(1.68)	(2.10)	(2.14)
GOVBALN/GDP	0.002**	-0.00002	0.002**	-0.00002
	(2.18)	(-0.02)	(2.23)	(-0.02)
GOVERNANCE	0.037**	0.057**	0.037**	0.054**
	(2.40)	(2.23)	(2.44)	(2.15)
TRADE	0.00002	-0.0003		
	(0.170)	(0.90)		

[8] In pooled regression all the α_i and λ_t coefficients are zero in Equation 1.

[9] The test statistic is $F_{m,n-k} = \frac{(RSS_r - RSS_{ur})/m}{RSS_{ur}/n-k}$, where RSS_r and RSS_{ur} stand for restricted and unrestricted residual sum of squares. m, n, and k denotes number of restrictions, number of observations and number of estimated parameters respectively.

POPULATION	-0.0006	0.018		
	(-0.09)	(1.39)		
REFORM	0.029	0.060		
	(0.80)	(1.06)		
R^2	0.730		0.729	
Observations	242	242	242	242
Number of Count.	22	22	22	22
Sargan Test(p-value)		0.811		0.99

Notes: t statistics are in parenthesis.

** , ** and *** denotes 10%, 5% and 1% significance level.*

Model (2) and (4) instrumented:lagged per capita GDP, REM/GDP, DC/GDP

Instruments:first lag of INV/GDP, second lag of per capita GDP, REM/GDP and third lag of DC/GDP

The results of the fixed effects model are presented in column 1 of Table 4. As can be seen from the table, the convergence coefficient of lny_{it-1} is found to be negative and significant implying the existence of conditional convergence. Remittances have a negative and a significant effect. This result is in line with the findings of Chami et al. (2005), and Singh et.al (2010) who also found a negative relationship between remittances and economic growth. Another interesting result is that domestic credit also has a negative and significant effect on growth. On the other hand, investment has a positive and statistically significant effect on growth. Moreover, the coefficients of governance and government balance are positive and significant as expected. However, the coefficients of trade, population and reform are insignificant.

As with the fixed effects model, we obtain similar signs of the coefficients with FE-IV model (column 2). Convergence coefficient is -0.235 and significant. The coefficient of remittance is negative and significant. Domestic credit and governance again have a positive impact on GDP per capita growth. The only difference is we observe higher coefficient values with FE-IV model, which implies higher marginal impacts of variables on growth. For example a 1 percent increase in remittance to GDP ratio would reduce the GDP per capita growth by 0.6 percent while it was 0.1 percent with FE model. Similarly a 1 percent increase in domestic credit to GDP ratio would reduce the GDP per capita growth 0.1 percent while it was 0.6 with FE model. The only

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exception is Government balance to GDP which is found to be negative and insignificant. We obtained similar results with more simple models (column 3 and column 4).

In order to investigate the significance of the financial development and remittances further, the interaction term of the financial development and remittances are used. The coefficient is found to be insignificant and not presented here. We also applied dummy variable to four transition countries that share of remittance to GDP more than 5% for 2012[10]. The coefficients for dummy variable are found to be insignificant and not presented here.

Conclusion

In this article, we investigated the relationship between remittances and economic growth in a sample of 22 transition countries. The main findings of the study show that there is a negative relationship between remittances and economic growth. In other words, the adverse effects of remittances on growth may dominate in the transition countries.

The inconclusive relationship between remittances and growth should lead the policymakers in the transition economies to reconsider their optimistic views of remittances and move toward a more realistic understanding of their effects. The reason why remittances have not spurred economic growth can be partly explained by the fact that they are generally not intended to serve as investments but rather as social insurance to help family members finance to buy the basic necessities.

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